CNHF Manpack

Reliable. Resilient. Ready.

CNHF Manpack is a software defined radio capable of transmitting both voice and data communications. It's designed to serve a number of use cases, all while being simple, secure and reliable to operate.

Revolutionary way to get connected

Our cognitive radios are the next generation HF radios offering highest performance, security and reliability for long-range communications. CNHF Manpack is KNL's new line of portable manpack radios.

For governments, defence and security

Our cutting-edge radio solutions adapt to the needs and requirements of modern military and security operations with fast and reliable data links in any operating environment.

Game-changing software defined radio

The CNHF Manpack is a software defined radio making it possible for remote configurations and updates. Our software has multiple game-changing features not currently found elsewhere:

- cognitive spectrum usage
- extremely fast GNSS independent ALE supporting more than 4000 calling channels listened to simultaneously (on HF and VHF)
- wideband HF data up to 153 kbit/s
- extremely robust modes are able to operate with less than -10 dB SNR

The innovative multihop functionality ensures that a route from source to destination is always found. Lastly, as the CNHF Manpack also covers VHF up to 54 MHz, interoperability with legacy VHF FM radios can be achieved when required.

Engineered with superior usability in mind

With CNHF Manpack user can establish their own independent communication network ranging from a few kilometres to thousands of kilometres

- Intuitive user interface – always secure and up-to-date
- Fully autonomous – independent from other networks and infrastructure
- Military grade encryption
- Available in two RF connector product variants – N connector and reinforced BNC connector (variant B)

Part number	KNL-2001	KNL-2001-B
Product name	CNHF-MP1 transceiver	CNHF-MP1 transceiver variant B
NSN	5820-58-001-9440	-
Commodity code	8517 62 00 00	8517 62 00 00

TECHNICAL SPECIFICATIONS

Platform	SDR platform	**Dimensions with handles**	105mm (H) x 210mm (W) x 314mm (D)
Frequency range	HF: 1.6 - 30 MHz, VHF 30 - 54 MHz	**Weight**	5kg without battery
Bandwidth	Up to 48 kHz	**Battery type**	BB-2590/U
TX Power	HF: 25 W, VHF: 5 W (PEP)	**Battery charger**	Built-in
RX Sensitivity	Better than -125 dBm (Bandwidth: 1.875 kHz)	**DC input**	20-32V
		Antenna tuner	Built-in

WAVEFORMS	
HF	CNHF Normal & Robust Mode - Bandwidth: up to 24 kHz - Modulations: BPSK - 256QAM - FEC (Forward Error Correction) - Data rates: up to 153 kbit/s - ALE: GNSS independent cognitive ALE with more than 4000 calling channels listened simultaneously (on HF and VHF) - ARQ & Non-ARQ modes - Unicast, multicast, broadcast - Multihop Analog SSB (J3E) and CW capabilities, as well as legacy and future MIL-STD and STANAG HF and WBHF waveforms, can be implemented if required.
VHF	CNHF Normal Mode (see HF Waveforms for details) Analog FM (F3E) capability, as well as other narrow band waveforms, can be implemented if required.
SERVICES (OPTIONAL)	
	- UDP/IP over HF interface (unicast, multicast and broadcast & IPsec support) - Built-in webmail client (support for attachments and coordinates) - Built-in instant messaging client (support for voice messages and attachments) - Digital secure voice (unicast, multicast, broadcast) - SMTP/IMAP interface for external email client and server - XMPP interface for external clients - Blue force tracking
INTERFACES	
RF antenna interface	**KNL-2001:** N connector (female) **KNL-2001-B:** Reinforced BNC interface (female) with outer M22 thread (not supported by the CNHF Vehicular system)
Audio	Analogue handset
Ethernet	Built-in, 100 Mbit/s
Serial	RS-485
USB	USB-C, power and data
GNSS	GPS, Galileo, GLONASS and BeiDou using civilian, publicly available GNSS services. Supports simultaneous tracking of multiple GNSS constellations. Provides detection and reporting of suspected GNSS jamming and spoofing.
GNSS antenna	Built-in & SMA connector (female) for external antenna
LTE	**KNL-2001:** Built-in modem **KNL-2001-B:** Built-in modem (SIM card accessible only by factory or authorised service)
LTE antenna	Built-in & SMA connector (female) for external antenna
WLAN	Built-in 2.4 GHz, IEEE 802.11b/g/n. Access Point (AP) mode with support for up to 8 simultaneous clients.
User Interface	320 x 480 color display, arrow keys.
	Browser based user interface with access control.
SECURITY	
CNHF Normal & Robust Mode	AES256 encryption, static & changing keys
Transceiver platform	Secure boot, signed software, zeroize function
ENVIROMENTAL & STANDARDS	
Operational temperature range	-40...+55 °C
Ingress protection (IP Code)	IP68
Environmental standards	MIL-STD-810H
EMC standards	MIL-STD-461G

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